

WHAT IS CLAIMED IS:

1           1.    A method of accessing an Intelligent Network  
2           (IN) service from any one of a plurality of dissimilar  
3           telecommunications networks, said method comprising the  
4           steps of:

5                 identifying a function that is common to each of the  
6           plurality of dissimilar telecommunications networks;

7                 identifying an interface within the common function  
8           that is common to each of the plurality of dissimilar  
9           telecommunications networks;

10                modifying the common interface to direct designated  
11           calls to an Intelligent Network (IN); and

12                executing the IN service by the IN network upon  
13           receiving a designated call.

1           2.    The method of accessing an IN service of claim  
2           1 wherein the function that is common to each of the  
3           plurality of dissimilar telecommunications networks is an  
4           Equal Access function that provides subscribers with  
5           equal access to a plurality of Inter-Exchange Carriers  
6           (IECs) by assigning to each carrier, an associated  
7           Carrier Identification Code (CIC) code, and storing a  
8           specified Preferred Inter-Exchange Carrier (PIC) category  
9           in a database for each subscriber.

1           3.    The method of accessing an IN service of claim  
2    2 wherein the interface within the common function that  
3    is common to each of the plurality of dissimilar  
4    telecommunications networks is a traffic router interface  
5    that analyzes the CIC code received during a call, and  
6    routes the call to an appropriate destination.

1           4.    The method of accessing an IN service of claim  
2    3 wherein the step of modifying the common interface to  
3    direct designated calls to an IN network includes  
4    specifying a special CIC code which triggers the traffic  
5    router interface to route the call to a switching node in  
6    the IN network rather than to an IEC.

1           5.    A method of providing a particular subscriber  
2    in a first telecommunications network with access to an  
3    Intelligent Network (IN) service that is accessed through  
4    a switching node in a second telecommunications network,  
5    said first network providing the subscriber with equal  
6    access to a plurality of inter-exchange carriers by  
7    assigning to each carrier, an associated carrier  
8    identification code (CIC) code, and utilizing the CIC  
9    code associated with the subscriber's chosen carrier to  
10   route to the chosen carrier, the subscriber's originating  
11   and terminating calls, said method comprising the steps  
12   of:

13 specifying in the first network, a special CIC code  
14 for the IN service;  
15 associating the special CIC code with the  
16 subscriber;  
17 detecting in the first network, an originating or  
18 terminating call for the subscriber;  
19 routing the call from the first network to the  
20 switching node in the second network based upon the  
21 special CIC code associated with the subscriber; and  
22 accessing the IN service in the second network from  
23 the switching node.

1 6. The method of providing access to an IN service  
2 of claim 5 wherein the step of specifying a special CIC  
3 code for the IN service includes the steps of:  
4 specifying a special preferred inter-exchange  
5 carrier (PIC) category in a subscriber database in the  
6 first network; and  
7 translating the special PIC category to the special  
8 CIC code upon detecting an originating or terminating  
9 call for the subscriber.

1           7.    The method of providing access to an IN service  
2   of claim 6 wherein the first network is an ANSI-41  
3   network, and the step of translating the special PIC  
4   category to the special CIC code is performed in a Home  
5   Location Register (HLR).

1           8.    The method of providing access to an IN service  
2   of claim 6 wherein the first network is a Global System  
3   for Mobile Communication (GSM) network, and the step of  
4   translating the special PIC category to the special CIC  
5   code is performed in a Mobile Switching Center/Visitor  
6   Location Register (MSC/VLR).

1           9.    The method of providing access to an IN service  
2   of claim 5 wherein the step of routing the call from the  
3   first network to a switching node in the second network  
4   includes:

5           sending the special CIC code to a traffic router;  
6           performing an analysis of the special CIC code in  
7   the traffic router; and

8           in response to said analysis, routing the call to  
9   the switching node in the second network.

1           10. The method of providing access to an IN service  
2 of claim 5 wherein the first network is an ANSI-41  
3 network, and the second network is a Global System for  
4 Mobile Communication (GSM) overlay network, and the step  
5 of routing the call from the first network to a switching  
6 node in the second network includes routing the call from  
7 a Mobile Switching Center (MSC) in the ANSI-41 network to  
8 a Service Switching Point (SSP) in the GSM network.

1           11. The method of providing access to an IN service  
2 of claim 10 wherein the step of accessing the IN service  
3 in the second network includes accessing a GSM Prepaid  
4 service through a Service Control Point (SCP) in the GSM  
5 network.

1           12. A method of providing a particular subscriber  
2 in an ANSI-41 radio telecommunications network with  
3 access to an Intelligent Network (IN) service that is  
4 accessed through a Service Switching Point (SSP) in a  
5 Global System for Mobile Communications (GSM) overlay  
6 network, said ANSI-41 network providing the subscriber  
7 with equal access to a plurality of inter-exchange  
8 carriers by assigning to each carrier, an associated  
9 carrier identification code (CIC) code, and utilizing the  
10 CIC code associated with the subscriber's chosen carrier  
11 to route to the chosen carrier, the subscriber's

12       originating and terminating calls, said method comprising  
13       the steps of:

14             specifying a special preferred inter-exchange  
15       carrier (PIC) category in the particular subscriber's  
16       subscriber database in a Home Location Register (HLR) in  
17       the ANSI-41 network;

18             detecting an originating or terminating call for the  
19       subscriber;

20             translating in the HLR, the special PIC category to  
21       a special CIC code associated with the IN service;

22             sending the special CIC code to a traffic router in  
23       a Mobile Switching Center/Visitor Location Register  
24       (MSC/VLR) in the ANSI-41 network;

25             performing an analysis of the special CIC code in  
26       the traffic router to determine where the call should be  
27       routed;

28             in response to said analysis of the special CIC  
29       code, routing the call from the MSC/VLR to the SSP in the  
30       GSM overlay network; and

31             accessing the IN service through a Service Control  
32       Point (SCP) in the GSM overlay network.

1             13. The method of claim 12 wherein the step of  
2       accessing the IN service through an SCP in the GSM  
3       network includes accessing a GSM Prepaid service through  
4       the SCP.

1           14. A system for providing a particular subscriber  
2 in a first telecommunications network with access to an  
3 Intelligent Network (IN) service that is accessed through  
4 a switching node in a second telecommunications network,  
5 said first network providing the subscriber with equal  
6 access to a plurality of inter-exchange carriers by  
7 assigning to each carrier, an associated carrier  
8 identification code (CIC) code, and utilizing the CIC  
9 code associated with the subscriber's chosen carrier to  
10 route to the chosen carrier, the subscriber's originating  
11 and terminating calls, said system comprising:

12           a subscriber database modified to store a special  
13 preferred inter-exchange carrier (PIC) category for the  
14 subscriber;

15           a data translator modified to translate the special  
16 PIC category into a special CIC code associated with the  
17 IN service; and

18           a switch in the first network that detects an  
19 originating or terminating call for the subscriber, and  
20 retrieves the special CIC code from the subscriber  
21 database in response thereto, said switch including a  
22 traffic router that performs an analysis of the special  
23 CIC code, and in response to said analysis, routes the  
24 call from the first network to the switching node in the  
25 second network for access to the IN service.

1           15. The system for providing access to an IN  
2 service of claim 14 wherein the first network is a Global  
3 System for Mobile Communications (GSM) radio  
4 telecommunications network, and the subscriber database  
5 is implemented in a Home Location Register (HLR), and the  
6 data translator is implemented in the switch.

1           16. The system for providing access to an IN  
2 service of claim 14 wherein the first network is an ANSI-  
3 41 radio telecommunications network, and the subscriber  
4 database and the data translator are implemented in a  
5 Home Location Register (HLR).

1           17. The system for providing access to an IN  
2 service of claim 16 wherein the second network is a  
3 Global System for Mobile Communications (GSM) overlay  
4 radio telecommunications network that provides GSM  
5 services to GSM subscribers in a geographical area that  
6 is also served by the ANSI-41 network.



1           18. The system for providing access to an IN  
2 service of claim 16 wherein the switching node in the  
3 second network is a Service Switching Point (SSP) in the  
4 GSM network, and the SSP provides access to a GSM Prepaid  
5 service through a Service Control Point (SCP) in the GSM  
6 network.